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InMemoriam: Raymond Millard Cable, 1909-1995

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IN MEMORIAM

RAYMOND MILLARD CABLE
1909–1995

Raymond M. Cable died 26 February 1995. He spent nearly half of his 85 plus years employed in the Department of Biological Sciences at Purdue University in Lafayette, Indiana, followed by his continuation there as Emeritus Professor of Parasitology after 1975.

In line with being a scholar and a gentleman, Ray was an all-around invertebrate zoologist. But he was a special parasitologist. In fact, he was THE authority on cercariae. Even though chronologically he cannot be considered the "American father of cercarial biology," he most certainly could be considered a forceful international inspiration for contemporary cercarial studies. I consider it most unfortunate that he never put down in book-form a review of known cercariae (or cercarial groups), including all his valuable unpublished information, ideas, and perceptions on cercariae, their development, and their evolution. Apparently, once Ray's eyes began to fail him, he considered such an endeavor no longer feasible.

Throughout his tenure at Purdue, the enthusiastic Ray gladly directed many of his students along the path of taxonomy and digenean life cycles. However, when other students got excited about a path that Ray did not understand, he still encouraged them to follow it. Perhaps in some cases, he may have helped students too much with their research. In most cases, however, he was not especially rigid, except in writing. As an author, research director, and editor, he agonized for perfection in the written presentation.

He allowed his students to receive as much credit as possible from their activities. When compiling the attached list of Ray's publications, I asked Lin Reynolds in the Department of Biological Sciences at Purdue if there was a file on Ray that included his publications and such. She provided an incomplete

Note: Photograph shows Raymond Cable (left) collecting snail hosts with then-graduate student George Cain during the autumn of 1962.

publication list, which, interestingly enough, contained 35 citations listing Cable's authorship jointly with his students that, in fact, did not include his name in the actual published articles. Someone recognized his input into those studies!

Whereas many members of the Society and readers of the *Journal* remember Ray only for his research results (see publication list below), many others were fortunate enough to know him for his other traits. Ray was a carpenter and woodworker; he made the gavel for the Annual Midwestern Conference of Parasitologists. He was a compulsive story-teller, his life being a continuum of stories. He relished in talking about his childhood in eastern Kentucky, his undergraduate days at Berea College, life in the Caribbean, and cercariae. In fact, sometimes he retold some stories so many times that listeners assigned numbers to specific tales! Parasitology crept into Ray's penchant for creating limericks and doggerel. He honored his major professor, Horace W. Stunkard, with the following:

Oh Mama-Papa

"Oh Mama-Papa (Isn't it right
To thus address an hermaphrodite?),
We soon shall leave you all alone
To find a sheep to be our own."
Thus cried the little onchospheres.
Moniezia said, "Be careful, dears.
Remember, you a secret hold
Which many a man, both young and old
Has tried to learn, but all for naught.
An anoplocephalid has never been caught.
An anoplocephalid must *never* be caught!"

"Your family's rep depends on you.
Remember the route that's tried and true.
Remember the fate of the great taenioids,
Dipylidids, their poor little cysticercoids!
Nay, nay, my children, it never will do;
Fleas, lice and such *big* things will not see you through.
Shun ev'ry one of them that you may meet;
Stay out of their way when they want to eat!
You'd be quite digested, and it would pain
Me to know you would never be heard from again.
Moniezias have always been heard from again!"

There are those who would give their right arm to find out
Our great family secret and put us to rout.
Not one of them yet has come close to the answer.
Said Smith, 'You can tell it's no cinch at a glance, Sir!'
Skrjabin and St. Consuloff claim to have found
You would never be guilty of reaching the ground,
But pass through the gut-wall, blood stream, and udders
To plague little lambs when they suckle their mudders.
Said Sinitsin and Monnig, "It's practically certain
A direct infection," and rang down the curtain.
Yes, sooner or later, they all get the curtain!"

"But still there are others both foolish and rash
Who putter and fume over proglottid hash.
I hear that Chandler and Stunkard and Stoll
Are looking for you. It's simply too droll
The way they think they have nothing neglected;
And how they've collected and fed and dissected
Beetles and grasshoppers, lice, ticks and ants.
They should know by this time that there isn't a chance,
Not one in a million, and end by confessing
They're licked! We Moniezias have got them all guessing.
We Moniezias shall certainly keep them all guessing!"

Moniezia contracted and whispered quite low,
"I must tell you the secret before you can go.
As soon as you find yourselves out in the light,
Just trust in your instincts and wait for a *mite.*
It's a tiny arachnid that's often ignored,
And to look at it closely most men would be bored.
But *that's* just it! Yes, let the mite eat you
And sooner or later a nice lamb will greet you.
You may have to wait for the mite quite a spell
But don't get o'er anxious and all will go well.
The anoplocephalids have always done well!"

Soon you will be safely out on the grass.
Just wait for the first *Galumna* to pass.
Another beetle-mite also may do;
If you are too choosey, you may not get through.
Now fare-thee-well," Moniezia said,
Undulating from tail to head.
It was her "good-bye" wave, you see.
The onchospheres wriggled their hooks with glee
As 'round inside their shells they whirled
And sped away to see the world,
To continue to fool the whole, wide world.

"Ach, was ist los?" the youngsters cried
As soon as they found themselves outside.
"That grass is green, we had no doubt,
Except in times of serious drought,
And then 'tis brown but this is white*
And not a single blade's in sight!"
But soon they were quite reassured
When they a flock of mites had lured
In their direction. "All is well,"
They said. "In fact, it's absolutely swell;
White grass and all can go to Hell!"

The mites were happy; so were they,
With far more reason, one should say.
As down they rushed past pedipalps,
They cried, "We're *in* to get your scalps!
You think we're food and treat us so.
Into your stomachs we shall go,
But from there to your hemocoel,
And then, how do you think you'll feel
While we as cysticercoids grow?
You may suspect but never know.
Our secret *none* shall ever know!"

Hours, days and weeks went swiftly past.
They knew that this could never last;
At any time, a lamb could pass
And eat the mites plus them with grass.
Their embryonic hooks were shed;
Four suckers grew within the head
(Or is it tail? I wish I knew;
I'll leave that question up to you.).
Tremendous changes had occurred
Since first their little hooklets stirred,
Since first six tiny hooks had stirred.

And now full grown, their days were spent
In idleness and great content.
Said one, "I think I'm quite mature
Another chided, "You're too sure.
When you have more concretions, see,
You'll be almost as nice as me."
"Oh yeah?" the first one sneered malignly.
The other bid a spade benignly.
Their quarrels would no further go.
They were *Moniezias* and must show
They had a secret none should know!

* Referring to plaster of Paris moist chamber used in rearing mites.

Pride goes before a fall, they say.
For them it was a fateful day.
A thund'rous noise! A blinding light!
The poor things almost died of fright!
And then they knew the game was up.
A tear dropped from each sucker cup.
"Ah, you beauties! Stunkard cried;
As one, the cysticercoids, sighed,
"Alas! 'Tis Stunkard; he's no sap.
Unhappy day! Oh sad mishap!
That white grass was a sucker trap!!"

At a table during the August 1988 ASP reception and barbeque at Stroh's Brewery in Winston–Salem, North Carolina, Ray recited another poem that he earlier composed. Mary Lou Pritchard jotted it down on a paper place mat, and Ray later edited it. He had also used it during his examinations to relieve student tension. However, on one occasion the story goes, a student was so keyed up that she became hysterical and had to be taken to Purdue's student health service.

Blessings on thee, little man

"Blessings on thee, little man,
Barefoot boy with cheeks of tan"
But more than blessings you will need
When you have divvied up your feed
And one by one each little worm is
Safely through your epidermis.

Sing a song of red points†
Ice box full of meat
Not just ripe and pigs feet
And yet if fish must be my dish
(I've et so much I hate 'em)
The fear remains I'll entertain
Diphyllobothrium latum.

Bring on the pork chops, spare ribs, ham,
Or even a piece of linoleum
Taenia solium.

With suckers and rostellar hooks
It explores our intestinal nooks
On eating pork measly,
With gusto or queasily,
We find it's just like in the books.

To some I've a soulful stare
It's my nuclei really, that glare.
I've eight long flagella,
Quite enough for one fella,
And a Hitler moustache that's not hair.

They met on a path by a river
Not of water, but bile in the liver.
Though Aphrodite and Hermes ‡
Were conjoined in these vermes,
Cupid still had some darts in his quiver!

It's a tiny nematode worm
That's not very large, I affirm.
But my, how it itches,
Be it hot pants or britches,
When the gravid females squirm and squirm!

When your sheets show small spots of red
Have a look at the parts of your bed.
There, concealed in the mattress,
You may find a fortress
Manned by a small army you've fed!

† A term for rationed meats during World War II.
‡ In Greek mythology, Hermes and Aphrodite were so deeply in love that the gods unified their bodies into one, a hermaphrodite.

When night falls this young lady sings.
Her voice is the hum of her wings
One awakes with much slapping
When she catches him napping
And is apt to say all sorts of things.

It's body's compressed from the sides
For getting through hair stuck in hides.
It's prickly all over,
Gives bad dreams to Rover,
And jumps like the devil besides.

Arma virumque cano.
Into your stomach I go
Then passing intestinally
I live there clandestinely
With others who've wild oats to sow.

(Fill in blanks with names of genera and species)

Sing a song of red points, ice box full of meat.
Not just ripe and soup bones, ox tails and pig's feet,
But sirloins and t-bones, Swiss steak and hamburger,
Bathed in the breeze of Roquefort cheese, Camembert and Limburger.
That not the case, I can erase in view of present data,
The fears I've entertained for years of ___ ___.
And yet if fish must be my dish (I've et so much I hate 'em),
There is a threat that I may get ___ ___.
So, bring on the pork chops, spare ribs, ham, yea, pieces of linoleum,
Cooked (underscored) or I'll be board and room for ___ ___!

Ray Cable experienced his undergraduate education in zoology at Berea College in Berea, Kentucky, where he graduated in 1929 and later received an honorary Doctor of Science in 1955. A nonscientific classmate acquaintance, Frank Dix of Ocean Springs, Mississippi, remembers Ray as a member of the intellectual student community who worked hard in a bakery to earn money in this period of the Great Depression. All students worked at that college. After leaving Berea, Ray was a Fellow at New York University, where he earned his M.S. and Ph.D. degrees under Horace Stunkard in 1930 and 1933, respectively. He then returned to Berea as Associate Professor of Biology until 1935 when he restarted his academic track at Purdue as Assistant Professor until 1939, Associate Professor until 1947, and Professor until he retired in 1975. During his professional career, he visited several marine habitats to study marine digeneans in addition to the freshwater ones in the Midwest. These excursions included the Marine Biological Laboratory, Woods Hole, during the summers of 1931–1933 and 1935–1941; Puerto Rico as a Guggenheim Fellow from 1951 to 1952; and the Caribbean Sea in 1961 at both the Caraibisch Marien-Biologisch Instituut in Curaçao, Netherlands Antilles, and the Marine Biological Laboratory of the University of the West Indies in Jamaica.

In the American Society of Parasitologists, which he joined in 1933, he was elected Distinguished Member Emeritus in 1977 and served in several positions: Council Member at Large from 1942 to 1945 and 1954 to 1957, on the Editorial Board from 1946 to 1960, as Assistant Editor from 1959 to 1964, as Vice President in 1958, and as President in 1964. Ray participated in several other societies, including the Indiana Academy of Sciences, the Helminthological Society of Washington in which he became a Life Member in 1986 and was on the editorial board from 1980 to 1994, Annual Midwestern Conference of Parasitologists, American Microscopical Society, American Society of Naturalists, American Society of Zoologists, Sigma Xi, New York Academy of Science, and American Association for the Advancement of Science.

As previously implied, his most important contribution was his help, guidance, and encouragement to students. The following alphabetical list of those former students at Purdue compiled by Paul Nollen, George Cain, and me consists of Mohammed Abbas, Dorcas J. Anderson, Jan Balling, Lois Berger, Janet Linderoth Bohren, George Cain, William Coil, Robert S. Connor, Richard Crandall, David Danley, William T. Dill, Tommy Dunagan, Frank M. Fisher, Jr., John E. Hall, C. B. Hamann, William H. Headlee, K. Michael Hibbard, William B. Hopp, Hadar Isseroff, Galila Mostafa Khalil, K. E. Kintner, Merle Kuns, Lloyd LeZotte, Boaz A. Mafarachesi, Henry Malecki, Walter E. Martin, Thomas Meade, Rose M. Myers, Mary Michaelis Ackerknecht, Fuad Nahhas, Paul Nollen, Kenneth Perkins, Lewis E. Peters, Glenn G. Pond, Enos G. Pray, L. A. Quick, Susan Rowley, Carolyn R. Sanborn, Clyde M. Senger, Mary M. Schutte, Philip Sitner, Ather Siddiqi, JoAnn Culler Stang, E. B. Steen, Paul Strong, Stephen Vee, Winona B. Vernberg, Helen L. Ward, A. Fred West, Norman C. Wheeler, Frank M. White, and Helen R. Zimmerman. There were many other students not at Purdue that he aided, including me. He reviewed my dissertation.

Everyone that met Ray has one or more favorite remembrances about him. Tom Meade recalled a day spent driving across Indiana to its southern portion with Ray to collect snails and then returning almost to Lafayette that same evening. Nearing arrival home, Ray remembered that when he was going into a stream, he removed and forgot about his watch, the first thing he purchased with the royalties obtained from publication of the first edition of his *Illustrated laboratory manual of parasitology*. Thus, they did not get back until 6:00 A.M. the next morning. On other trips, a great deal of energy was spent by students planning and executing the complex tactics necessary to politely assume from him the driving responsibilities to assure better a safe return.

His life outside science included his survivors, wife Mary, who is called "Tommy," daughters Peg and June, and sons Bill and Dan. He is missed by all!

CHRONOLOGICAL LIST OF PUBLICATIONS

CABLE, R. M. 1931. Studies on the germ-cell cycle of *Cryptocotyle lingua* Creplin. I. Gametogenesis in the adult. Quarterly Journal of Microscopical Science **74:** 563–589.

STUNKARD, H. W., AND R. M. CABLE. 1931. A trematode from the cloaca of the gull. Science **74:** 438.

STUNKARD, H. W., AND R. M. CABLE. 1931. Notes on a species of *Lernaea* parasitic in the larva of *Rana clamitans*. Journal of Parasitology **18:** 92–97.

STUNKARD, H. W., AND R. M. CABLE. 1931. Notes on a species of *Lernaea* parasitic in the larvae of *Rana clamitans*. American Society of Zoologist **51**(Suppl.): 68.

STUNKARD, H. W., AND R. M. CABLE. 1932. The life history of *Parorchis avitus* (Linton) a trematode from the cloaca of the gull. Biological Bulletin **62:** 328–338.

LUDWIG, D., AND R. M. CABLE. 1933. The effect of alternating temperatures on the pupal develop of *Drosophila melanogaster* Meigen. Physiological Zoology **6:** 493–508.

CABLE, R. M. 1934. Studies on the germ-cell cycle of *Cryptocotyle lingua*. II. Germinal development in the larval stages. Quarterly Journal of Microscopical Science **76:** 573–614.

CABLE, R. M., AND W. E. MARTIN. 1935. *Parorchis avitus* (Linton, 1914), a synonym of *P. acanthus* (Nicoll, 1906). Journal of Parasitology **21:** 436–437.

CABLE, R. M. 1935. *Cercaria kentuckiensis*, n. sp., first representative of the "vivax" group known to occur in the United States. Journal of Parasitology **21:** 441.

CABLE, R. M. 1935. Three new species of larval trematodes from Kentucky. Journal of Parasitology **21:** 436.

CABLE, R. M. 1936. Experimental studies on the trematode *Parorchis acanthus* Nicoll. Journal of Parasitology **22:** 526–544.

HEADLEE, W. H., AND R. M. CABLE. 1936. Studies of intestinal parasite infections of students of Berea College, Kentucky. Journal of Parasitology **22:** 530.

CABLE, R. M. 1936. Experimental studies on the trematode, *Parorchis acanthus* Nicoll. Journal of Parasitology **22:** 544.

CABLE, R. M., AND H. R. ZIMMERMAN. 1937. Life history studies on cestodes of the genus *Dipylidium* from the dog. Zeitschrift für Parasitenkunde **9:** 717–729.

CABLE, R. M. 1937. The resistance of the herring gull, *Larus argentatus*, to experimental infections of the trematode, *Parorchis acanthus*. Journal of Parasitology **23:** 559.

CABLE, R. M., AND W. H. HEADLEE. 1937. The incidence of animal parasites of the brown rat (*Rattus norvegicus*) in Tippecanoe County, Indiana. Proceedings of the Indiana Academy of Science **46:** 217–219.

WARD, H. L., AND R. M. CABLE. 1937. Acanthocephala from the burbot (eel) (*Lota vulgaris*), with special reference to variations in the female of *Echinorhynchus coregoni*. Transactions of the American Microscopical Society **56:** 355–363.

CABLE, R. M. 1938. Studies on larval trematodes from Kentucky with a summary of known related species. American Midland Naturalist **19:** 440–464.

CABLE, R. M., AND A. V. HUNNINEN. 1938. Observations on the life history of *Spelotrema nicolli* n. sp. (Trematoda: Microphallidae), with the description of a new microphallid cercaria. Journal of Parasitology **24**(Suppl.): 29–30.

CABLE, R. M. 1938. Cercariae of Indiana. 1. A preliminary note on larval trematodes from McCormick's Creek with descriptions of three new species. Proceedings of the Indiana Academy of Science **47:** 227–228.

CABLE, R. M. 1939. Two new species of cotylomicrocercous cercariae from Indiana. Transactions of the American Microscopical Society **58:** 62–66.

HEADLEE, W. H., J. M. KMECZA, AND R. M. CABLE. 1939. Report of a native case of infection by the fish tapeworm, *Diphyllobothrium latum*. Journal of the Indiana State Medical Association **32:** 188–189.

CABLE, R. M., AND N. C. WHEELER. 1939. Notes on three new species of cercariae belonging to the pleurolophocerca group. Journal of Parasitology **25:** 35–42.

CABLE, R. M., AND A. V. HUNNINEN. 1939. The life history of *Spelotrema nicolli* (Trematoda: Microphallidae). Journal of Parasitology **25**(Suppl.): 26.

CABLE, R. M. 1939. A preliminary report on the life history of a species of *Amphimerus* (Trematoda: Opisthorchiidae) from the snapping turtle (*Chelydra serpentina*). Proceedings of the Indiana Academy of Science **48:** 201.

CABLE, R. M., AND A. V. HUNNINEN. 1939. Studies on the morphology and life history of *Spelotrema nicolli* (Trematoda: Microphallidae). Anatomical Record **75**(Suppl.): 97–98.

CABLE, R. M., AND A. V. HUNNINEN. 1939. Studies on the life history of *Spelotrema nicolli*. Biological Bulletin **77:** 309.

CABLE, R. M., AND A. V. HUNNINEN. 1940. Studies on the life history of *Spelotrema nicolli* (Trematoda: Microphallidae) with the description of a new microphallid cercaria. Biological Bulletin **78:** 136–157 .

HUNNINEN, A. V., AND R. M. CABLE. 1940. Studies on the life history of *Anisoporus manteri* sp. nov. (Trematoda: Allocreadiidae). Biological Bulletin **79:** 373–374.

WARD, H. L., AND R. M. CABLE. 1940. Studies on the life history of *Neoechinorhynchus cylindratus* (Van Cleave, 1913) (Acanthocephala). Transactions of the American Microscopical Society **59:** 327–347.

CABLE, R. M. 1940. Egg production in trematodes with special reference to *Spelotrema nicolli* (Microphallidae). Proceedings of the Indiana Academy of Science **49:** 200–201.

CABLE, R. M., AND A. V. HUNNINEN. 1940. Life history of *Spelotrema nicolli*. Proceedings of the Oklahoma Academy of Science **20:** 15.

CABLE, R. M. 1940. An illustrated laboratory manual of parasitology. Burgess Publishing Company, Minneapolis, Minnesota, 108 p.

HUNNINEN, A. V., AND R. M. CABLE. 1941. Studies on the life history of *Anisoporus manteri* Hunninen and Cable, 1940 (Trematoda: Allocreadiidae). Biological Bulletin **80:** 415–428.

HUNNINEN, A. V., AND R. M. CABLE. 1941. The life history of *Podocotyle atomon* (Rudolphi) (Trematoda: Opecoelidae). Journal of Parasitology **27**(Suppl.): 12–13.

HUNNINEN, A. V., AND R. M. CABLE. 1941. Studies on the life history of *Lecithaster confusus* Odhner (Trematoda: Hemiuridae). Journal of Parasitology **27**(Suppl.): 13.

CABLE, R. M., AND A. V. HUNNINEN. 1941. Studies on the life history of *Siphodera vinaledwardsii* (Linton) (Trematoda: Cryptogonimidae). Journal of Parasitology **27**(Suppl.): 13.

CABLE, R. M., AND A. V. HUNNINEN. 1941. The systematic position of the genus *Deropristis* Odhner with respect to a proposed revision of the trematode families Acanthocolpidae and Allocreadiidae. Journal of Parasitology **27**(Suppl.): 14–15.

CABLE, R. M., AND A. V. HUNNINEN. 1941. Studies on the life history of *Siphodera vinaledwardsii,* a trematode parasite of the toadfish. Biological Bulletin **81:** 2.

WHITE, F. M. AND R. M. CABLE. 1942. Studies on the morphology of *Cystidicola cristivomeri* sp. nov. (Nematoda: Thelaziidae) from the swim bladder of the lake trout, *Cristivomer namaycush* (Walbaum). American Midland Naturalist **28:** 416–423.

HEADLEE, W. H., AND R. M. CABLE. 1942. Intestinal parasitism among students of Berea College, Kentucky. American Journal of Tropical Medicine **22:** 351–360.

CABLE, R. M., AND A. V. HUNNINEN. 1942. Studies on *Deropristis inflata* (Molin), its life history and affinities to trematodes of the family Acanthocolpidae. Biological Bulletin **82:** 292–312.

CABLE, R. M., AND A. V. HUNNINEN. 1942. Studies on the life history of *Siphodera vinaledwardsii* (Linton) (Trematoda: Cryptogonimidae). Journal of Parasitology **28:** 407–422.

CABLE, R. M., AND R. A. MCLEAN. 1942. The occurrence of *Cercaria clausii* Monticelli, a marine Rattenkönig cercaria, on the west coast of Florida. Journal of Parasitology **28**(Suppl.): 9.

CABLE, R. M. 1943. The Indian rat flea, *Xenopsylla cheopis,* in Indiana. Proceedings of the Indiana Academy of Science **52:** 201–202.

CABLE, R. M., AND R. A. MCLEAN. 1943. The occurrence of *Cercaria clausii* Monticelli, marine Rattenkönig larval trematode, on the west coast of Florida. Notulae Naturae No. **129:** 1–7.

HUNNINEN, A. V., AND R. M. CABLE. 1943. The life history of *Lecithaster confusus* Odhner (Trematoda: Hemiuridae). Journal of Parasitology **29:** 71–79.

HUNNINEN, A. V., AND R. M. CABLE. 1943. The life history of *Podocotyle atomon* (Rudolphi) (Trematoda: Opecoelidae). Transactions of the American Microscopical Society **62:** 57–68.

CABLE, R. M. 1943. An illustrated laboratory manual of parasitology, 2nd ed. Burgess Publishing Company, Minneapolis, Minnesota, 112 p.

CABLE, R. M. 1944. The significance of studies on the life histories of animal parasites with special reference to some digenetic trematodes. Proceedings of the Indiana Academy of Science **53:** 159–164.

CABLE, R. M., AND R. A. MCLEAN. 1944. Motion picture of *Cercaria clausii* Monticelli, a marine Rattenkönig larval trematode from the west coast of Florida. Journal of Parasitology **30**(Suppl.): 7.

CABLE, R. M., AND R. A. MCLEAN. 1945. Motion picture of *Cercaria clausii* Monticelli, a marine Rattenkönig larval trematode from the west coast of Florida. Journal of Parasitology **31**(Suppl.): 20.

SEITNER, P. G., AND R. M. CABLE. 1945. Studies on five new species of xiphidiocercariae of the virgula type. Journal of Parasitology **32:** 272–281.

CABLE, R. M., AND L. KRAUS. 1945. The trematode parasites of a species of *Goniobasis* from the Tippecanoe River, Indiana. Proceedings of the Indiana Academy of Science **54:** 197.

DOYLE, L. P., R. M. CABLE, AND H. E. MOSES. 1947. A destructive turkey disease. Journal of the American Veterinary Medical Association **111:** 57–60.

CABLE, R. M., AND E. HILLAERT. 1947. Cultivation of *Trichomonas gallinarum* in the chick embryo and in vitro with single strains of certain bacteria. Journal of Parasitology **33**(Suppl.): 8.

CABLE, R. M., AND W. B. VERNBERG. 1949. The occurrence of an adult holostome (Trematoda: Cyathocotylidae) in the intestine of a fish. Journal of Parasitology **35:** 20.

ANDERSON, D. J., AND R. M. CABLE. 1950. Studies on the life history of *Linstowiella szidati* (Anderson) (Trematoda: Strigeatoidea: Cyathocotylidae). Journal of Parasitology **36:** 395–410.

CABLE, R. M. 1950. An illustrated laboratory manual of parasitology, 3rd ed. Burgess Publishing Company, Minneapolis, Minnesota, 152 p.

CABLE, R. M. 1950. An 'acanthocolpid' trematode from the sturgeon of the Wabash River. Journal of Parasitology **36**(Suppl.): 27.

CABLE, R. M., AND M. L. KUNS. 1951. The trematode family Microphallidae with the description of *Carneophallus trilobatus* gen. et sp. nov., from Mexico. Journal of Parasitology **37:** 507–514.

CABLE, R. M., AND A. V. HUNNINEN. 1951. The trematode family Microphallidae with the report of a new genus. Journal of Parasitology **37**(Suppl.): 22.

CABLE, R. M. 1952. On the systematic position of the genus *Deropristis,* of *Dihemistephanus sturionis* Little, 1930, and of a new digenetic trematode from a sturgeon. Parasitology **42:** 85–91.

CABLE, R. M. 1952. Studies on marine digenetic trematodes of Puerto Rico. Four species of magnacercous heterophyid cercariae with zygocercous aggregation in one. Journal of Parasitology **38**(Suppl.): 28.

CABLE, R. M. 1952. Studies on marine digenetic trematodes of Puerto Rico. An unusual type of cystophorous cercaria. Journal of Parasitology **38**(Suppl.): 28.

CABLE, R. M. 1952. Studies on marine digenetic trematodes of Puerto Rico. The systematic position of the subfamily Gymnophallinae Odhner. Journal of Parasitology **38**(Suppl.): 36–37.

CABLE, R. M. 1952. Studies on marine digenetic trematodes of Puerto Rico. Observations on life histories in the families Haplosplanchnidae and Megaperidae. Journal of Parasitology **38**(Suppl.): 37.

CABLE, R. M. 1953. The life cycle of *Parvatrema boringueñae* gen. et sp. nov. (Trematoda: Digenea) and the systematic position of the subfamily Gymnophallinae. Journal of Parasitology **39:** 408–421.

CABLE, R. M., AND C. H. CONAWAY. 1953. Coccidiosis of mammary tissue in the water shrew, *Sorex palustris* navigator. Journal of Parasitology **39**(Suppl.): 30.

CABLE, R. M. 1953. An investigation of marine trematodes in Puerto Rico. Proceedings of the Indiana Academy of Science **62:** 298.

CABLE, R. M. 1954. Studies on marine digenetic trematodes of Puerto Rico. The life cycle in the family Haplosplanchnidae. Journal of Parasitology **40:** 71–76.

CABLE, R. M. 1954. A new marine cercaria from the Woods Hole region and its bearing on the interpretation of larval types in the Fellodistomatidae (Trematoda: Digenea). Biological Bulletin **106:** 15–20.

CABLE, R. M. 1954. Studies on marine digenetic trematodes of Puerto Rico. The life cycle in the family Megaperidae. Journal of Parasitology **40:** 202–208.

CABLE, R. M., AND W. B. HOPP. 1954. Acanthocephalan parasites of the genus *Neoechinorhynchus* in North American turtles with the descriptions of two new species. Journal of Parasitology **40:** 674–680.

CABLE, R. M., AND L. A. QUICK. 1954. Some Acanthocephala from Puerto Rico with the description of a new genus and three new species. Transactions of the American Microscopical Society **73:** 393–400.

CABLE, R. M. 1954. The development of a species of *Opistholebes* in the final host, the affinities of some amphistomatous trematodes from marine fishes, and the allocreadioid problem. Parasitology **40**(Suppl.): 38.

CABLE, R. M. 1955. Taxonomy of some digenetic trematodes from sturgeons. Journal of Parasitology **41:** 441.

CABLE, R. M. 1955. Affinities of the trematode family Didymozoidae. Journal of Parasitology **41**(Suppl.): 25.

CABLE, R. M. 1956. Marine cercariae of Puerto Rico. Scientific Survey of Porto Rico and the Virgin Islands **16:** 491–577.

CABLE, R. M. 1956. *Opistholebes diodontis* n. sp., its development in the final host, the affinities of some amphistomatous trematodes from marine fishes and the allocreadioid problem. Parasitology **64:** 1–13.

CABLE, R. M., AND R. M. E. MYERS. 1956. A dioecious species of *Gyrocoelia* (Cestoda: Acoleidae) from the naped plover. Journal of Parasitology **42:** 510–515.

CABLE, R. M., AND R. B. CRANDALL. 1956. Larval stages and phylogeny as exemplified by the lung fluke of turtles. Science **124:** 890.

CABLE, R. M., AND F. M. FISHER, JR. 1957. A fourth species of *Neoechinorhynchus* (Acanthocephala) in turtles of the United States. Journal of Parasitology **43**(Suppl.): 29.

CABLE, R. M. 1958. Book review of *Systema helminthum. Part I. Digenetic trematodes of fishes,* published by author (Maruzen Co., Ltd.), 1953, Tokyo, Japan, by S. Yamaguti. Tropical Medicine Hygiene News **8:** 13.

CABLE, R. M. 1958. An illustrated laboratory manual of parasitology, 4th ed. Burgess Publishing Company, Minneapolis, Minnesota, 165 p.

SIDDIQI, A. H., AND R. M. CABLE. 1959. Digenetic trematodes of marine fishes from the Caribbean Sea adjacent to Puerto Rico and Mona Island. Journal of Parasitology **45**(Suppl.): 35.

CABLE, R. M., R. S. CONNOR, AND J. W. BALLING. 1960. Digenetic trematodes of Puerto Rican shore birds. Scientific Survey of Porto Rico and the Virgin Islands. New York Academy of Science **17:** 189–255.

SIDDIQI, A. H., AND R. M. CABLE. 1960. Digenetic trematodes of marine fishes of Puerto Rico. Scientific Survey of Porto Rico and the Virgin Islands. New York Academy of Science **17:** 257–369.

CABLE, R. M., AND F. M. FISHER, JR. 1961. A fifth species of *Neoechinorhynchus* (Acanthocephala) in turtles. Journal of Parasitology **47:** 666–668.

CABLE, R. M. 1961. A cercaria of the Haploporidae (Trematoda: Digenea) and the affinities of that family. Journal of Parasitology **47**(Suppl.): 42.

CABLE, R. M., AND F. M. NAHHAS. 1962. *Lepas* sp., second intermediate host of a didymozoid trematode. Journal of Parasitology **48:** 34.

CABLE, R. M. 1962. A cercaria of the trematode family Haploporidae. Journal of Parasitology **48:** 419–422.

CABLE, R. M., AND R. M. NAHHAS. 1962. *Bivesicula caribbensis* sp. n. (Trematoda: Digenea) and its life history. Journal of Parasitology **48:** 536–538.

CABLE, R. M. 1963. Book review of *Parasitology, laboratory manual,* John Wiley and Sons, Inc., New York, 1962, by S. C. Schell. American Biology Teacher **25:** 290.

CABLE, R. M., AND F. M. NAHHAS. 1963. The cercaria of *Dichadena acuta* Linton, 1910 (Trematoda: Hemiuridae). Proceedings of the Helminthological Society of Washington **30:** 206–210.

CABLE, R. M., AND J. LINDEROTH. 1963. Taxonomy of some Acanthocephala from marine fishes with reference to species from Curaçao, N.A., and Jamaica, W.I. Journal of Parasitology **49:** 706–716.

CABLE, R. M. 1963. Marine cercariae from Curaçao and Jamaica. Journal of Parasitology **49**(Suppl.): 41.

CABLE, R. M., AND K. L. HAYES. 1963. North American and Hawaiian freshwater species of the genus *Philophthalmus* (Trematoda: Digenea). Journal of Parasitology **49**(Suppl.): 41.

CABLE, R. M. 1963. Marine cercariae from Curaçao and Jamaica. Zeitschrift für Parasitenkunde **23:** 429–469.

NAHHAS, F. M., AND R. M. CABLE. 1964. Digenetic and aspidogastrid trematodes from marine fishes of Curaçao and Jamaica. Tulane Studies in Zoology **11:** 169–228.

CABLE, R. M. 1965. "Thereby hangs a tail." Journal of Parasitology **51:** 3–12.

JAMES, B. L., AND R. M. CABLE. 1965. Germinal sacs of *Parvatrema homoeotecnum* James, 1964 (Trematoda: Digenea) from the hemocoel of the marine gastropod, *Littorina saxatilis* (Olivi). Journal of Parasitology **51**(Suppl.): 58.

POND, G. G., AND R. M. CABLE. 1966. Fine structure of photoreceptors in three types of ocellate cercariae. Journal of Parasitology **52:** 483–493.

STANG, J. C., AND R. M. CABLE. 1966. The life history of *Holostephanus ictaluri* Vernberg, 1952 (Trematoda: Digenea), and immature states of other North American freshwater cyathocotylids. American Midland Naturalist **75:** 404–415.

CABLE, R. M. 1966. Recent studies on trematodes of birds and the interpretation of the life history in the Digenea. Proceedings of the First International Congress of Parasitology, Vol. I, Pergamon Press, Milano, Italy, p. 522–523.

CABLE, R. M., AND B. A. MAFARACHISI. 1966. Three species of *Gorgorhynchoides* (Acanthocephala) from carangid fishes. Journal of Parasitology **52**(Suppl.): 40.

DILL, W. T., AND R. M. CABLE. 1966. Life-cycle of *Paulisentis fractus* Van Cleave and Bangham, 1949 (Acanthocephala: Neoechinorhynchidae). Journal of Parasitology **52**(Suppl.): 41.

DEBLOCK, S., AND R. M. CABLE. 1966. Position systématique nouvelle de *Microphallus excellens sensu* Nahhas et Cable, 1964. Bulletin of the Society of Zoology, France **91:** 393–400.

CABLE, R. M., AND W. T. DILL. 1967. The morphology and life history of *Paulisentis fractus* Van Cleave and Bangham, 1949 (Acanthocephala: Neoechinorhynchidae). Journal of Parasitology **53:** 810–817.

CABLE, R. M. 1967. Does molting occur in Acanthocephala? Journal of Parasitology **53**(Suppl.): 40.

CABLE, R. M., AND M. B. MICHAELIS. 1967. *Plicatobothrium cypseluri* n. gen., n. sp. (Cestoda: Pseudophyllidea) from the Caribbean flying fish, *Cypselurus bahiensis* (Ranzani 1842.) Proceedings of the Helminthological Society of Washington **34:** 15–18.

HIBBARD, K. M., AND R. M. CABLE. 1968. The uptake and metabolism of tritiated glucose, tyrosine, and thymidine by adult *Paulisentis fractus* Van Cleave and Bangham, 1949 (Acanthocephala: Neoechinorhynchidae). Journal of Parasitology **54:** 517–523.

KHALIL, G. M., AND R. M. CABLE. 1968. Germinal development in *Philophthalmus megalurus* (Cort, 1914) (Trematoda: Digenea). Zeitschrift für Parasitenkunde **31:** 211–231.

ISSEROFF, H., AND R. M. CABLE. 1968. Fine structure of photoreceptors in larval trematodes. A comparative study. Zeitschrift für Zellforschung und mikroskopische Anatomie **86:** 511–534.

CABLE, R. M. 1968. Does moulting occur in acanthocephala? Transactions of the American Microscopical Society **87:** 121.

HIBBARD, K. M., AND R. M. CABLE. 1968. Uptake and metabolism of tritiated glucose, tyrosine and thymidine by adults of *Paulisentis fractus* (Acanthocephala: Neoechinorhynchidae). Journal of Parasitology **54**(Suppl.): 58.

CABLE, R. M., AND H. ISSEROFF. 1969. A protandrous haploporid cercaria, probably the larva of *Saccocoeloides sogandaresi* Lumsden, 1963. Proceedings of the Helminthological Society of Washington **36:** 131–135.

CABLE, R. M., AND B. A. MAFARACHISI. 1970. Acanthocephala of the genus *Gorgorhynchoides* parasitic in marine fishes. *In* H. D. Srivastava commemoration volume, K. S. Singh and B. K. Tandan (eds.). Indian Veterinary Research Institute, Izatnagar, U.P., p. 255–261.

CABLE, R. M., AND C. R. SANBORN. 1970. Two oviduct flukes from reptiles in Indiana: *Telorchis compactus* sp. n. and a previously described species. Proceedings of the Helminthological Society of Washington **37:** 211–215.

CABLE, R. M. 1971. Parthenogenesis in parasitic helminths. American Zoologist **11:** 267–272.

CABLE, R. M. 1972. Behaviour of digenetic trematodes. *In* Behavioural aspects of parasite transmission, Vol. 51, Suppl. 1, E. U. Canning and C. A. Wright (eds.). Zoological Journal of the Linnean Society, London, p. 1–18.

STRONG, P. L., AND R. M. CABLE. 1972. Fine structure and development of the metacercarial cyst in *Microphallus opacus* (Ward, 1894). Journal of Parasitology **58:** 92–98.

DANLEY, D. L., AND R. M. CABLE. 1972. Site finding and nutrition of *Philopthalmus megalurus* in the domestic chicken. Journal of Parasitology **58**(Suppl.): 59.

CABLE, R. M., AND M. H. SCHUTTE. 1973. Comparative fine structure and origin of the metacercarial cyst in two philophthalmid trematodes, *Parorchis acanthus* (Nicoll, 1906) and *Philophthalmus megalurus* (Cort, 1914). Journal of Parasitology **59:** 1031–1040.

CABLE, R. M. 1974. Ancylid snails as "surrogate" hosts of digeneans. Proceedings of the Third International Congress of Parasitology, FACTA Publication, München, Federal Republic of Germany **1:** 350.

CABLE, R. M. 1974. Phylogeny and taxonomy of trematodes with reference to marine species. *In* Symbiosis in the Sea, W. B. Vernberg (ed.), The Belle W. Baruch Library in Marine Science No. 2, University of South Carolina Press, Columbia, S.C., p. 173–193.

CABLE, R. M. 1977. An illustrated laboratory manual of parasitology, 5th ed. Burgess Publishing Company, Minneapolis, Minnesota, 275 p.

CABLE, R. M. 1982. Phylogeny and taxonomy of the malacobothrean flukes. *In* Parasites—Their world and ours, D. F. Mettrick and S.

S. J. Desser (eds.). Elsevier Biomedical Press, Amsterdam, Netherlands, p. 194–197.

CABLE, R. M. 1985. The partial life cycle and affinities of an unusual xiphidiocercaria from *Amnicola limosa* (Say) in Indiana, U.S.A. (Digenea: Lecithodendriidae). Journal of Parasitology **71:** 342–344.

CABLE, R. M., AND L. E. PETERS. 1986. The cercaria of *Allocreadium ictaluri* Pearse (Digenea: Allocreadiidae). Journal of Parasitology **72:** 369–371.

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